Broadband Infrastructure and
<u>The e-NC Authority</u>:
Creating Jobs, Building Prosperity and Keeping North Carolina Globally Competitive

**Presentation to
the Natural and Economic Resources
Joint Subcommittee**

February 17, 2011

**Jane Smith Patterson
Executive Director, The e-NC Authority**

The e-NC Authority – Quick Facts

- **The e-NC Authority is the state broadband authority, created by the N.C. General Assembly** (under Session Law 2003-425), to grow local-level wealth and create jobs and educational opportunities through increased broadband deployment, especially to rural and distressed areas.

- The e-NC Authority is a **state authority** (not a non-profit organization).

- Led by a **15-member commission**
(with 9 members appointed by the Governor, House and Senate; plus 6 ex-officio seats)

- **Staff of ten** (eight full-time, two part-time)
All positions are paid in-part by federal broadband recovery dollars through 2014.
(Note: focus on broadband has staff of 10 as compared to other infrastructure – transportation, water & sewer, electricity, energy…)

- **Organizational Structure**: per e-NC's legislation, e-NC is created within the Dept. of Commerce, with the Rural Center providing staff support under contract. The Rural Center acts as the fiscal and contracting agent for e-NC.

Why Broadband Infrastructure?

For every $1 invested in broadband, **$3 is directly returned to the economy**, without a multiplier effect. With an economic multiplier, every $1 invested in broadband returns **$10.**

          -U.S. Bureau of Economic Analysis (www.bea.gov)

U.S. households that use the Internet **save $7,707 per year**

          - Internet Innovation Alliance (www.internetinnovation.org)

So Why The e-NC Authority?

The e-NC Authority, the state's designated broadband authority:
>   works with broadband providers and communities **to increase broadband adoption** and **find solutions to deploy broadband to unserved areas** across North Carolina.

While the private sector reaches much of the state:
>   **strategic partnerships and targeted solutions are needed** to serve small businesses and households in sparsely populated areas – communities that desperately need this infrastructure to promote job growth and job creation.

No other statewide groups have the technical expertise and background of e-NC.

No other statewide organizations perform this work.

The e-NC Authority - Quick History

In 2000, the NC General Assembly established the **Rural Internet Access Authority (under S.L. 2000-149)** to work to improve broadband access to the rural areas of the state. In 2003, **e-NC was created as the successor entity**.

Started with **$30 million in private funding** from MCNC in 2000 (MCNC - a nonprofit)

Over **2/3 of initial funding was awarded through grant programs** to communities across the state.

e-NC received its **first state operating funds in 2005**.

As a state entity, e-NC has received **between $500,000 and $440,000/year** in state operating funds since 2005.
For FY10-11, e-NC was appropriated $442,035, minus reversions

The e-NC Authority - Quick History

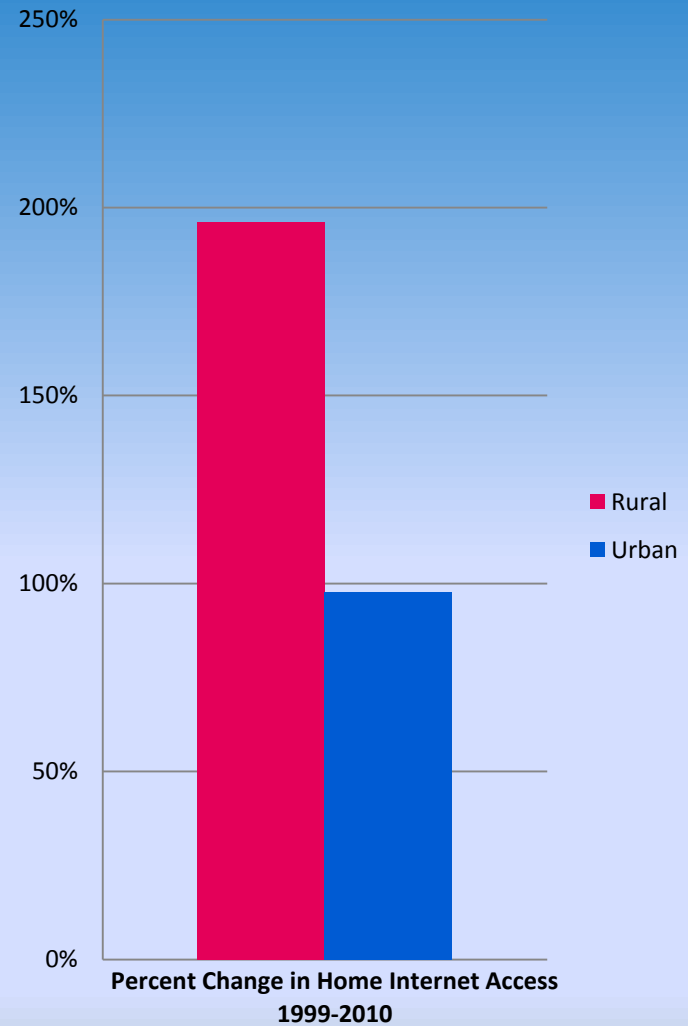2000 --2010

During this time, the state has seen significant improvements in both the availability of broadband infrastructure and state adoption rates.

Home **Internet** Access

NC Homes with Internet Access (%)

	Rural	Urban
1999	26%	43%
2010	77%	85%
% Growth	196%	98%

Percent Change in Home Internet Access 1999-2010

Legend: Rural, Urban

The e-NC Authority – What Do We Do?

Working since 2000, the e-NC Authority:

- **Serves as the Internet policy and planning body for the state** (per e-NC's legislation):

  - e-NC developed the initial pilot and assisted in planning efforts for the **School Connectivity Initiative** (which provides broadband to all school systems in the state)

  - e-NC assisted in the initial planning for the **NC Telehealth Network**, and acted as program manager for this project (which connects public health centers and free clinics across the state) (Cabarrus Health Authority, the main partner)

  - e-NC provided staff assistance to the NC Office of Economic Recovery & Investment (OERI) in bringing over **$250 million of federal funding to the state for broadband infrastructure** and adoption projects, as well as assisting approximately 1/3 of the applicants with information for their projects

  - Administered PEG channel grants as directed by the NCGA in SL 2006-151.

The e-NC Authority – What Do We Do?

Working since 2000, the e-NC Authority:

1. **Works directly in communities**:
   - Developed e-communities plans with all 85 rural counties and the Eastern Band of the Cherokees
   - Provides on-the-ground technical assistance to communities working on broadband planning and adoption efforts

2. **Partners with broadband providers on deployment and adoption efforts**:
   - Partners with private sector and non-profit broadband service providers to find solutions to deploy broadband to unserved and underserved areas in the state

3. **Seeks funding solutions for broadband efforts**
   - In past years, e-NC has developed and managed many grant programs: connectivity incentives, e-communities, public Internet access sites, digital literacy training, e-government grants, e-NC Business & Tech Centers and others

The e-NC Authority – What Do We Do?

Working since 2000, the e-NC Authority:

4. **Seeks to leverage funding for broadband efforts for North Carolina and deliver increased state revenues by:**

Producing more than **$5 billion in economic impact** from broadband deployment in North Carolina.

Calculating a **10 times return on investment** in broadband deployment through the American Recovery and Reinvestment Act (ARRA).

Assisting North Carolina companies in securing more than **$250 million in broadband recovery funding**.

The e-NC Authority – What Do We Do?

Working since 2000, the e-NC Authority:

4. **(Continued…)**
    Seeks to leverage funding for broadband efforts for North Carolina and deliver increased state revenues by:

Generating **$221 million additional state revenue** from e-NC Business & Technology Telecenters jobs, with no multiplier effect.

Supporting the **e-NC Business & Technology Telecenters**, which have achieved the following results since 2001:

Created nearly 2,000 jobs in Tier 1 and Tier 2 counties;
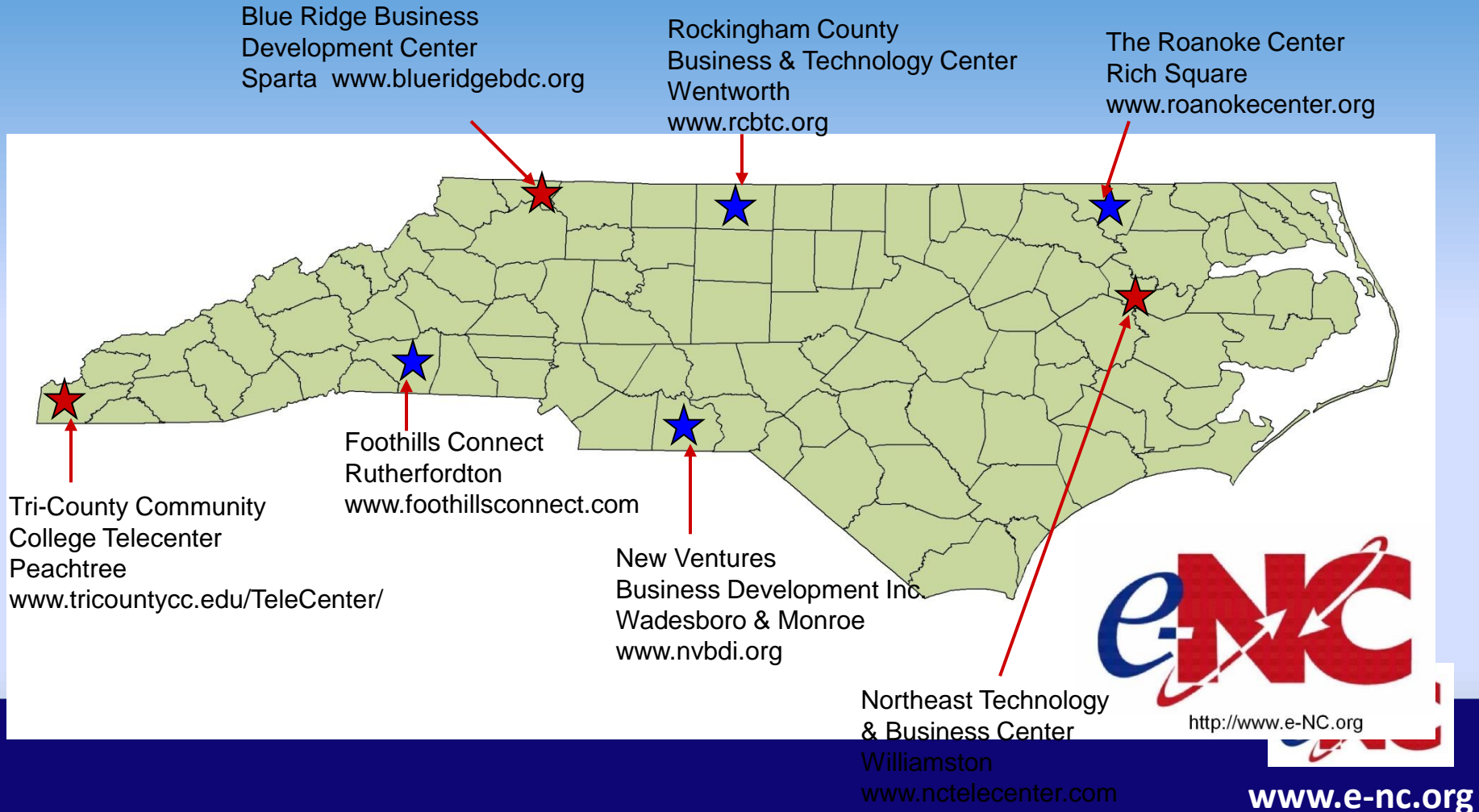Served more than 26,500 business clients;
Trained more than 13,000 people in 3,288 classes for a total of 1.4 million classroom training hours;
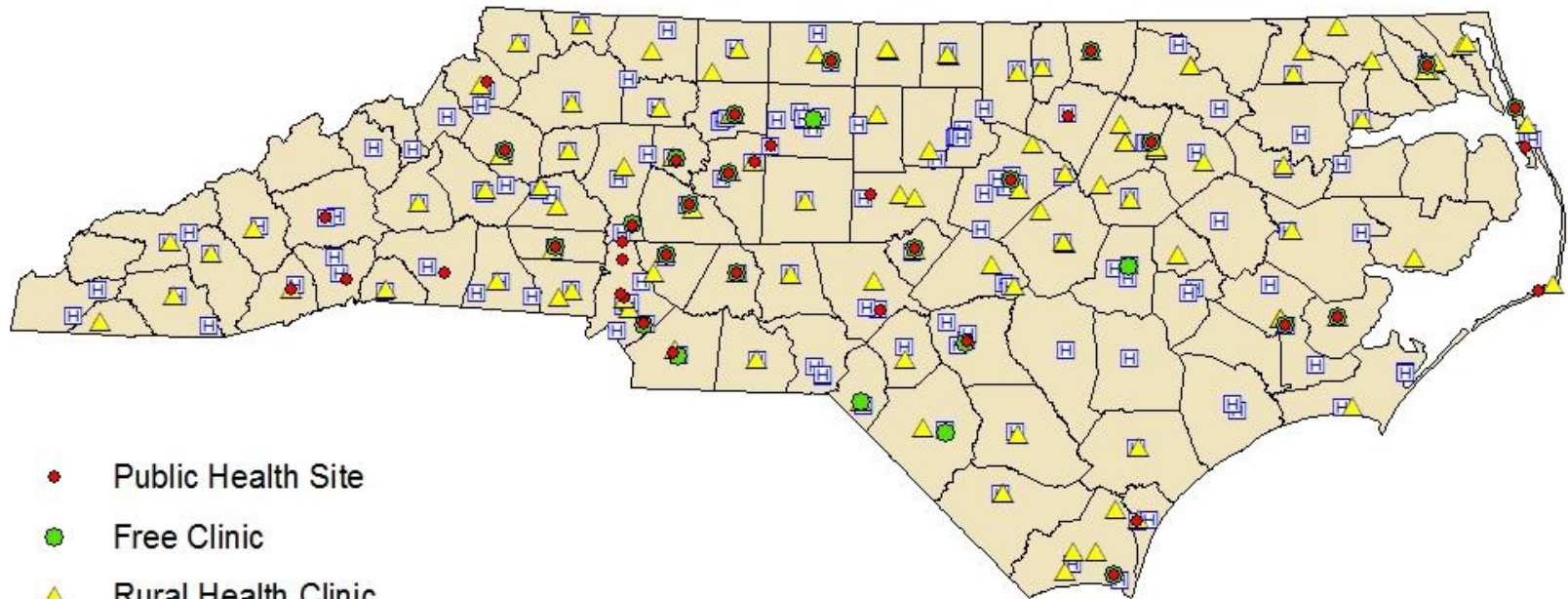Offered technical services to their communities and their 192 tenant organizations; and
Provided public on-site Internet access to more than 200,000 total users.

e-NC Business & Technology Telecenters

Blue Ridge Business
Development Center
Sparta www.blueridgebdc.org

Rockingham County
Business & Technology Center
Wentworth
www.rcbtc.org

The Roanoke Center
Rich Square
www.roanokecenter.org

Foothills Connect
Rutherfordton
www.foothillsconnect.com

Tri-County Community
College Telecenter
Peachtree
www.tricountycc.edu/TeleCenter/

New Ventures
Business Development Inc.
Wadesboro & Monroe
www.nvbdi.org

Northeast Technology
& Business Center
Williamston
www.nctelecenter.com

e-NC

http://www.e-NC.org

www.e-nc.org

Sites Eligible for Participation in the North Carolina TeleHealth Network

- ● Public Health Site
- ● Free Clinic
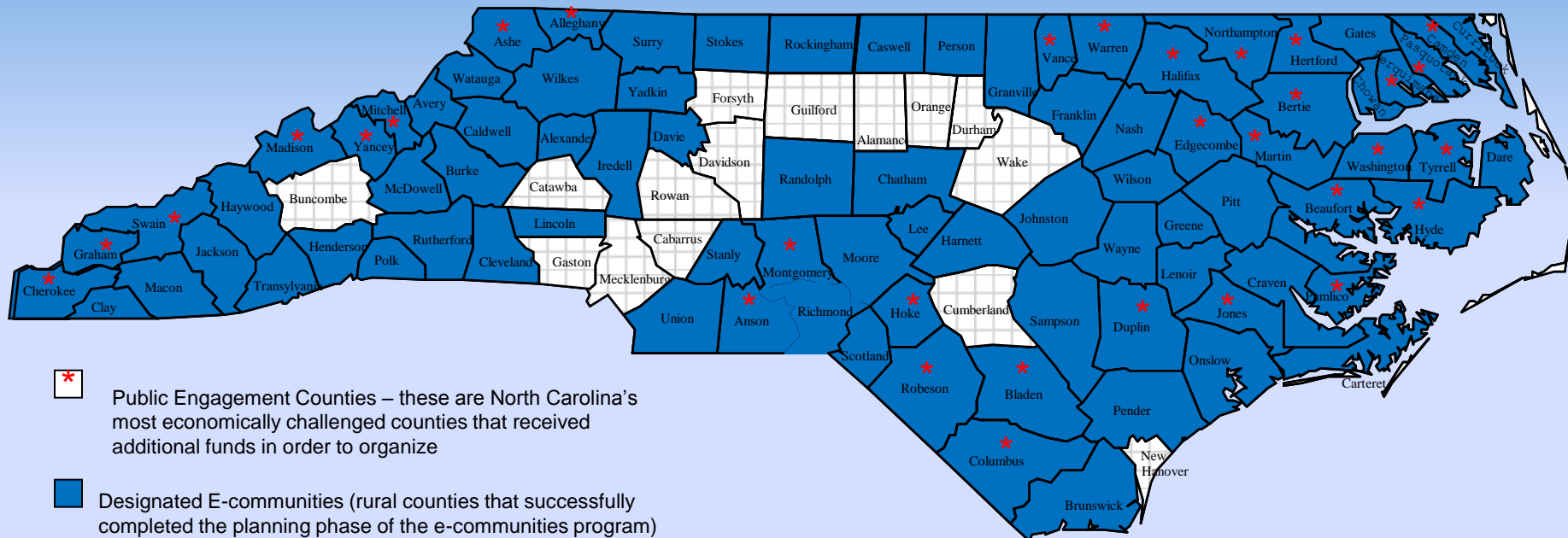- △ Rural Health Clinic
- ⊞ Hospital

N
W—E
S

0   50   100
Miles

e-NC

Building Demand In Communities

e-Communities Program
(Launched in 2001)

* ***** Public Engagement Counties – these are North Carolina's most economically challenged counties that received additional funds in order to organize

* **Designated E-communities** (rural counties that successfully completed the planning phase of the e-communities program)
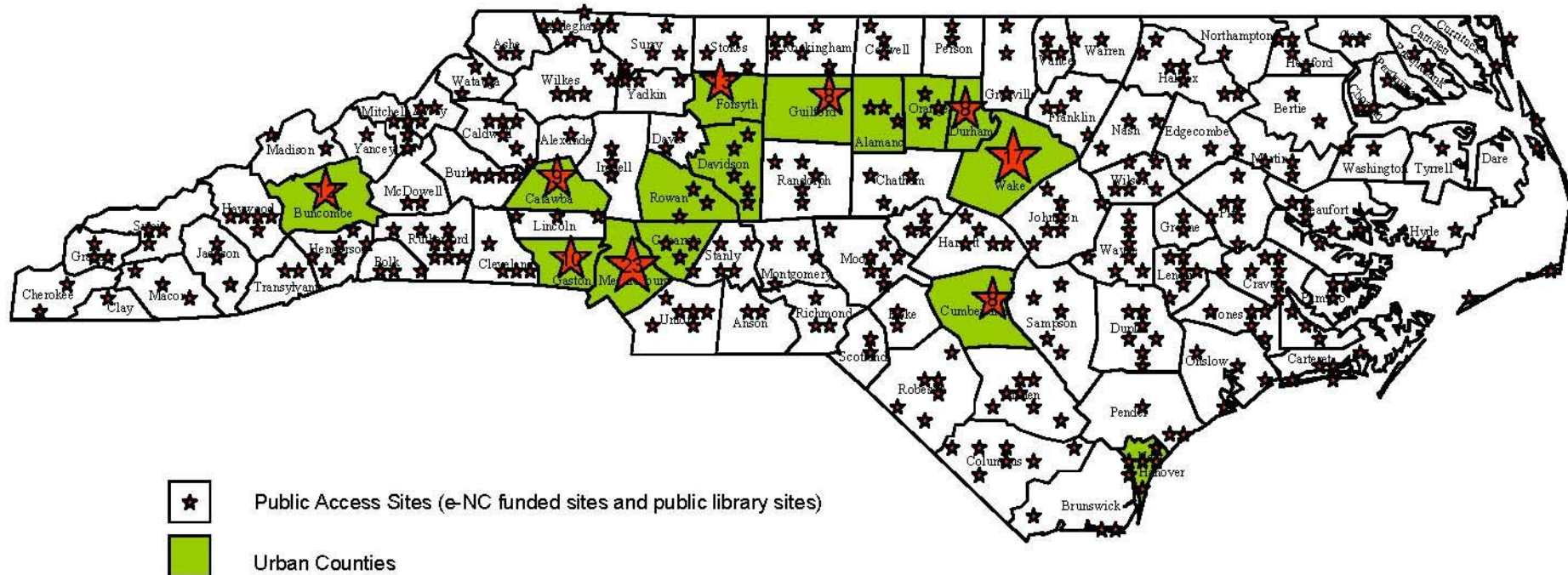
* **Urban Counties** (Note: 2003 legislation authorized E-NC to work with distressed areas of urban counties)

Rural: A county with a density of fewer than 200 people per square mile based on the 1990 U.S. Census (as defined in N.C. Senate Bill 1343)
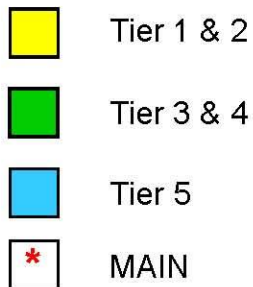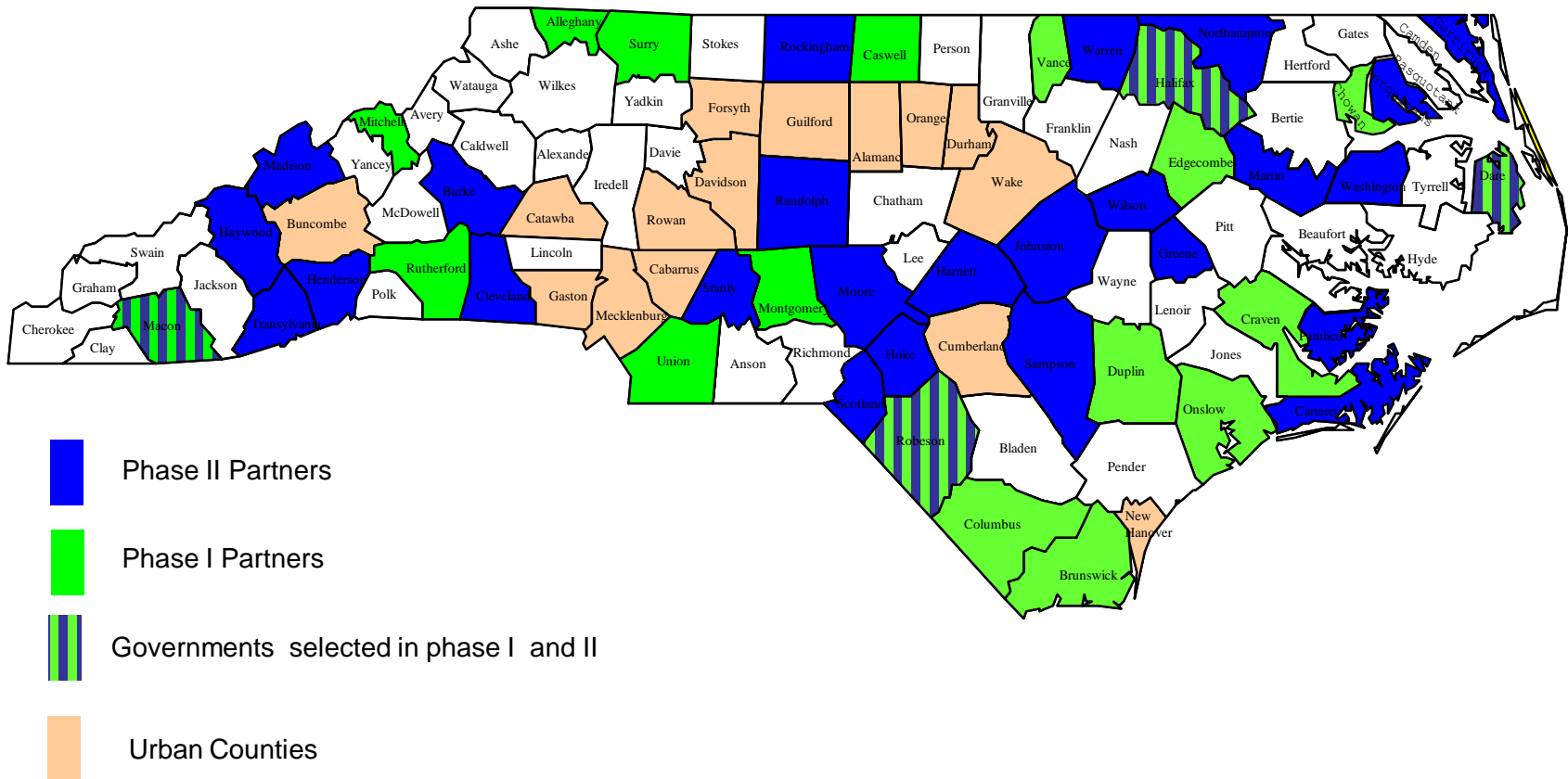
Public Access Centers

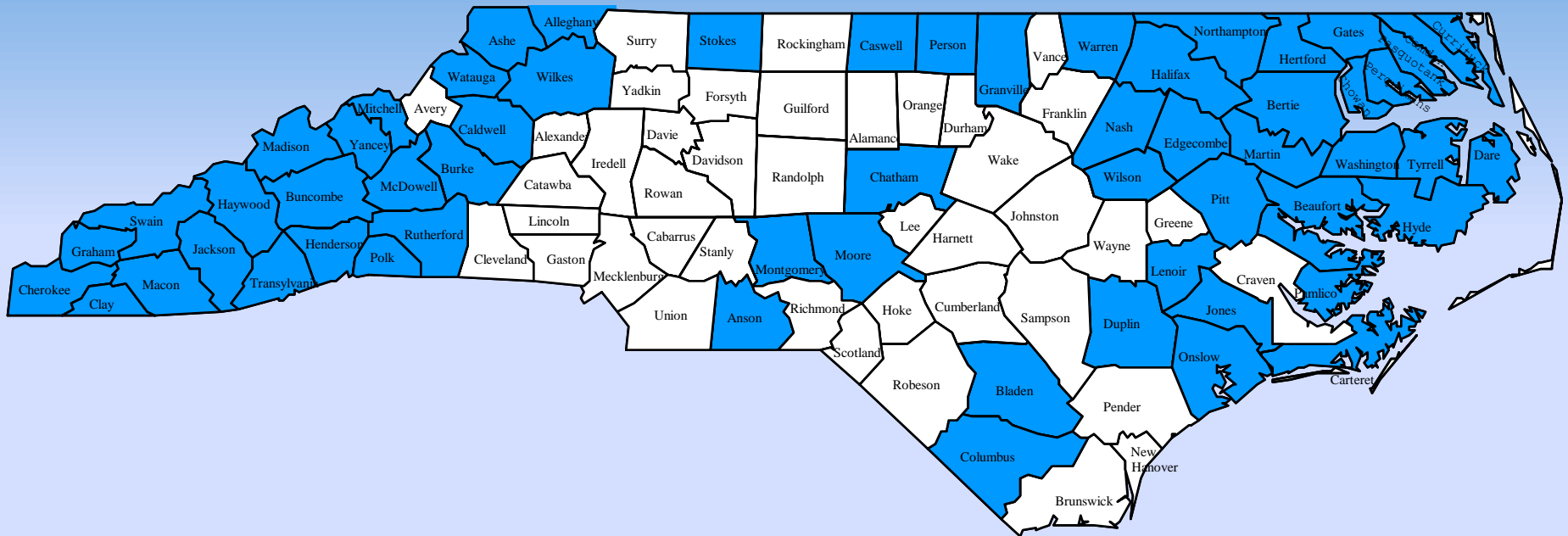★ Public Access Sites (e-NC funded sites and public library sites)

▮ Urban Counties

2 Rounds of Grants - $1,021,000

May 2006

www.e-NC.org

Rural Internet Access Authority
Digital Literacy Training Grants

Tier 1 & 2

Tier 3 & 4

Tier 5

* MAIN

1/13/2003

Leg-Up Phase I & II Locations 2004-05

Phase II Partners

Phase I Partners

Governments selected in phase I and II

Urban Counties

Rural Internet Access Authority
Counties Benefiting from Incentive Awards

Includes Demand and Supply Side Incentives Grants and Western Connectivity Grants

Updated May 2004

The e-NC Authority – $6.6M Federal Funding

In August 2009 e-NC was designated by the Governor as the broadband mapping entity for North Carolina for purposes of the State Broadband Data & Development Grant under the National Telecommunications & Information Administration (NTIA) of the U.S. Department of Commerce.

In 2010, the e-NC Authority was awarded **$6.6 million in federal funding through 2014** to support these efforts around:

- Broadband mapping (and update of NC Master Address file)
- Technical assistance and planning
- Broadband adoption and usage
- Capacity building

for increased broadband infrastructure and use across North Carolina.

The e-NC Authority –
State Funding for Federal Match

State operating funding supports most of the **20 percent match requirement** for the $6.6 million federal grant (primarily covering a portion of personnel time for e-NC).
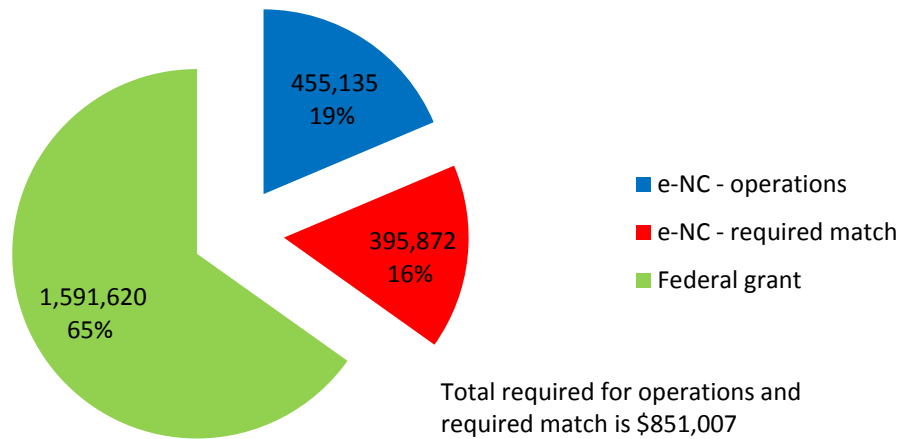
In order to draw down the federal dollars and maintain the grant, **$400,000 per year is needed in state appropriations** for the next three years.

Golden LEAF is providing the additional $100,000 per year (for four years total), to allow e-NC to meet the match required by the federal award.
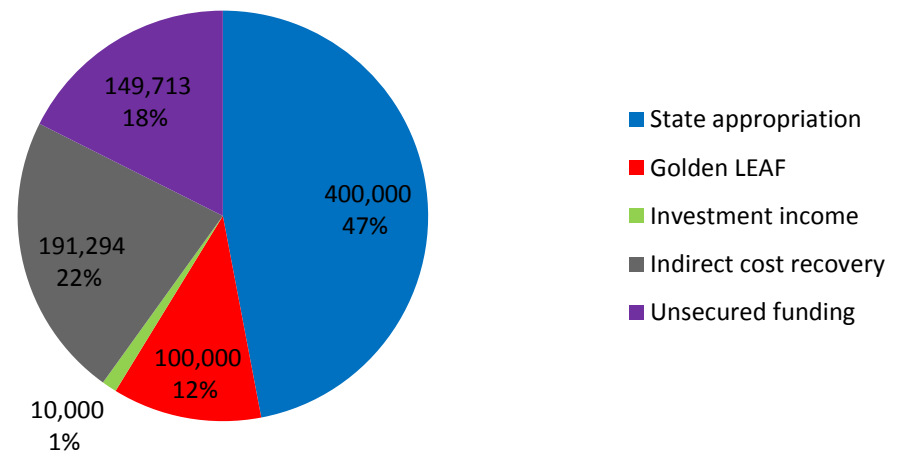
 **The e-NC Authority is designated by the Governor and the NTIA as the state's mapping and broadband planning entity. The NTIA awards one grant per state to carry out the responsibilities of this work. No other entity in North Carolina is performing this work.
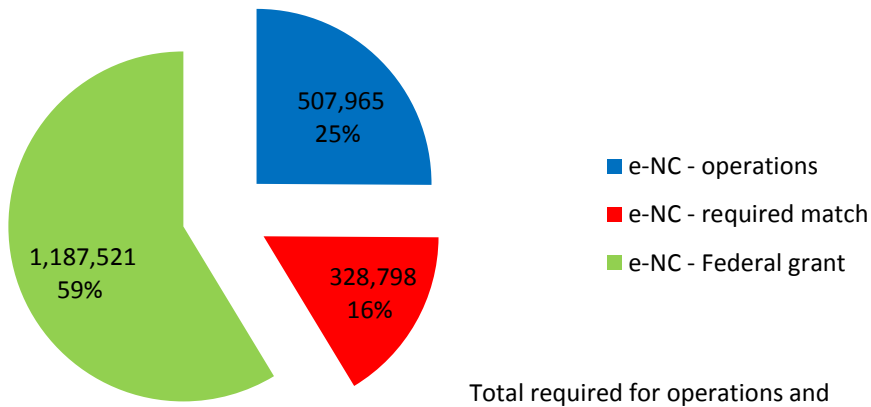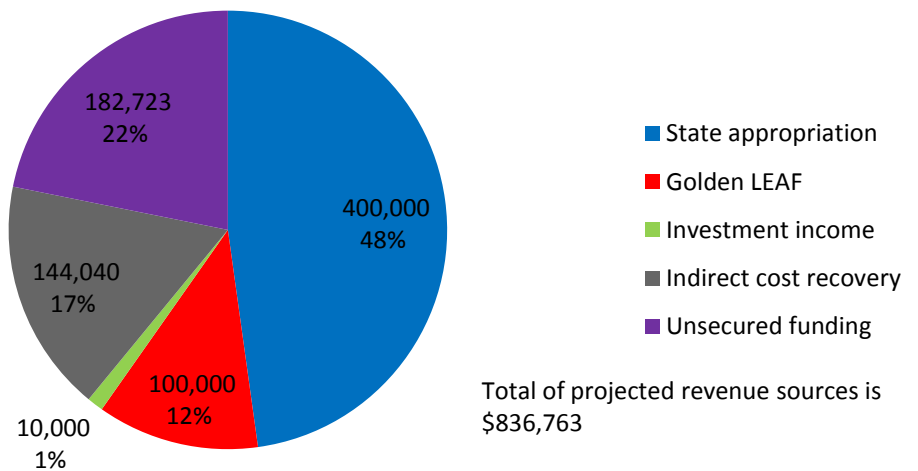
e-NC Authority
Projected Expenditures - FY 12

- e-NC - operations
- e-NC - required match
- Federal grant

455,135 — 19%
395,872 — 16%
1,591,620 — 65%

Total required for operations and required match is $851,007

e-NC Authority
Projected sources of revenue
for operations and required match - FY 12

- State appropriation
- Golden LEAF
- Investment income
- Indirect cost recovery
- Unsecured funding

400,000 — 47%
100,000 — 12%
10,000 — 1%
191,294 — 22%
149,713 — 18%

e-NC Authority
Projected Expenditures - FY 13

- e-NC - operations
- e-NC - required match
- e-NC - Federal grant

507,965
25%

328,798
16%

1,187,521
59%

Total required for operations and

e-NC Authority
Projected sources of revenue
for operations and required match - FY 13

- State appropriation
- Golden LEAF
- Investment income
- Indirect cost recovery
- Unsecured funding

182,723
22%

400,000
48%

144,040
17%

10,000
1%

100,000
12%

Total of projected revenue sources is $836,763

e-NC Authority
Projected Expenditures - FY 14

- ■ e-NC - operations
- ■ e-NC - required match
- ■ e-NC - Federal grant

511,128 29%

944,408 54%

290,454 17%

Total required for operations and required match is $801,652

e-NC Authority
Projected sources of revenue
for operations and required match - FY 14

- ■ State appropriation
- ■ Golden LEAF
- ■ Investment income
- ■ Indirect cost recovery
- ■ Unsecured funding

176,931 22%

114,651 14%

10,000 1%

400,000 50%

100,000 13%

Total of projected revenue sources is $801,652

Current Programs
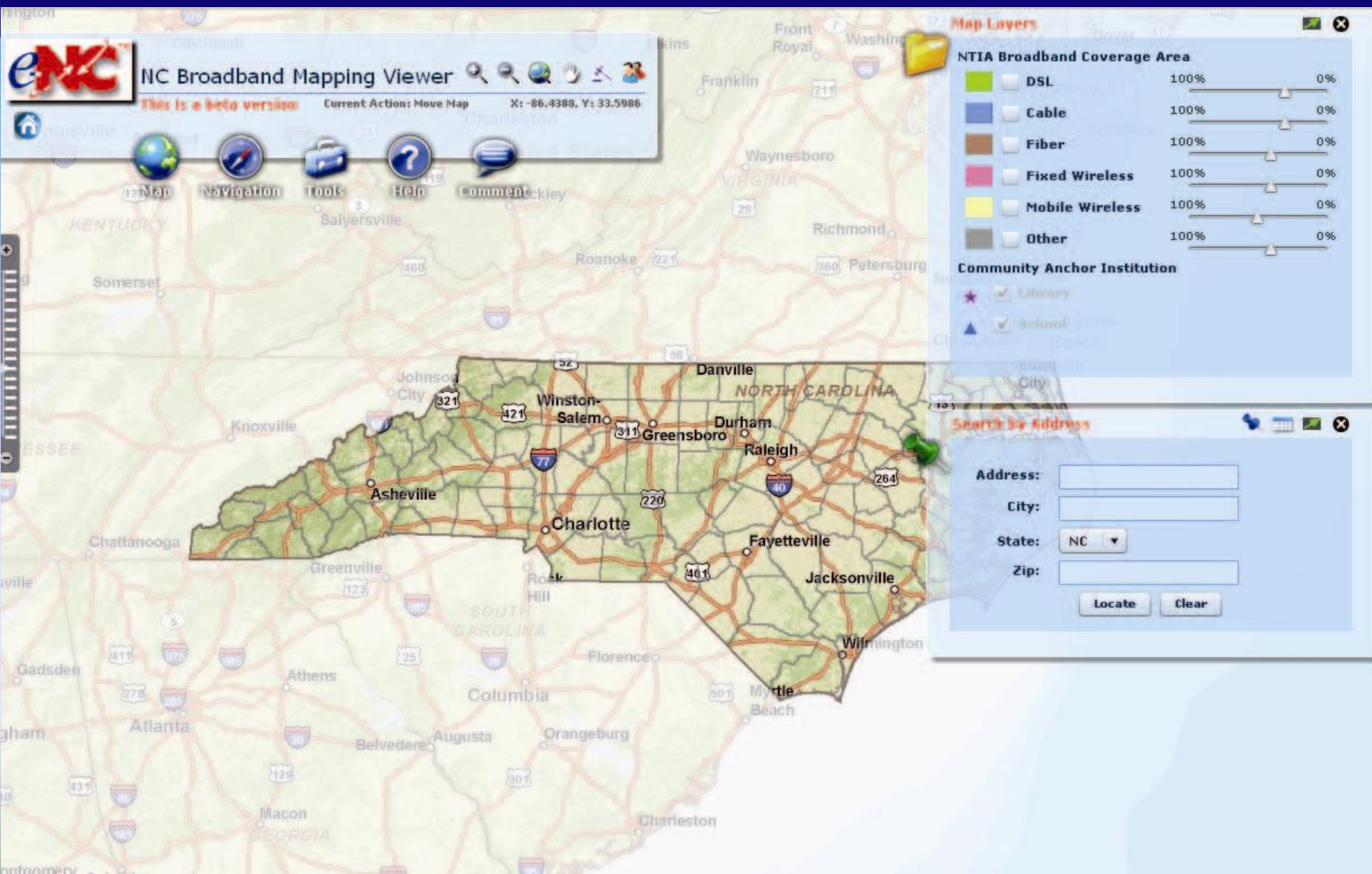## (funded by $6.6m federal recovery grant with state match)

1) Data Collection and Mapping of Broadband Availability Across NC (2009-2014):

Bi-annual collection, validation and display of state-level broadband availability data for the North Carolina Broadband map (http://e-ncbroadband.org) and the FCC's National Broadband Map, in partnership with North Carolina's broadband providers.

Update statewide address files by partnering with the NC Center for Geographic Information and Analysis (CGIA) to identify and apply best practices - supporting emergency management and public safety information for all state agencies and county governments.

NC Broadband Map

Current Programs
(funded by $6.6m federal recovery grant with state match)

2) Technical Assistance Program (2010-2014):

Provide on-the-ground technical assistance to counties and communities. This program works with broadband providers and local communities to examine their broadband needs and availability, build demand, identify unserved areas and determine solutions for deploying broadband in those areas, resulting in more efficient fiscal planning of broadband investments.
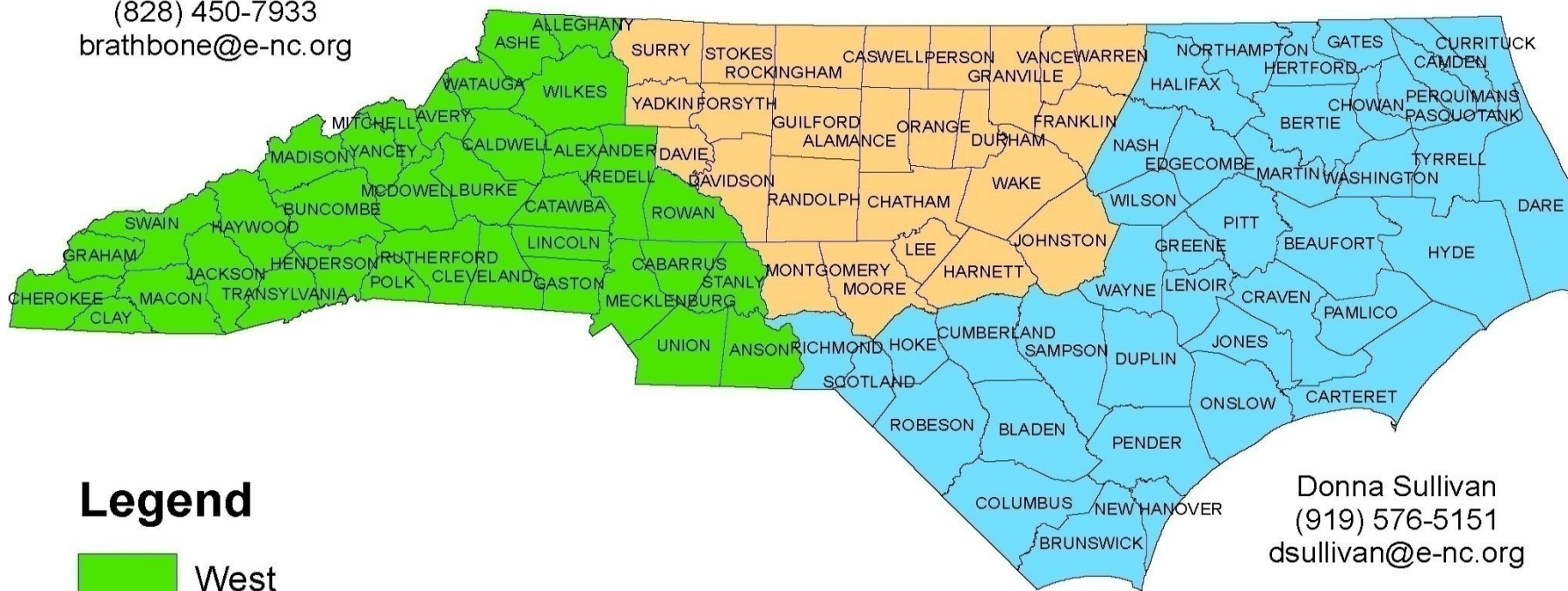
Engage underserved communities about the relevancy of broadband usage and adoption and its direct link to education and economic growth. This will fuel demand for service and result in increased broadband deployment by the private sector.
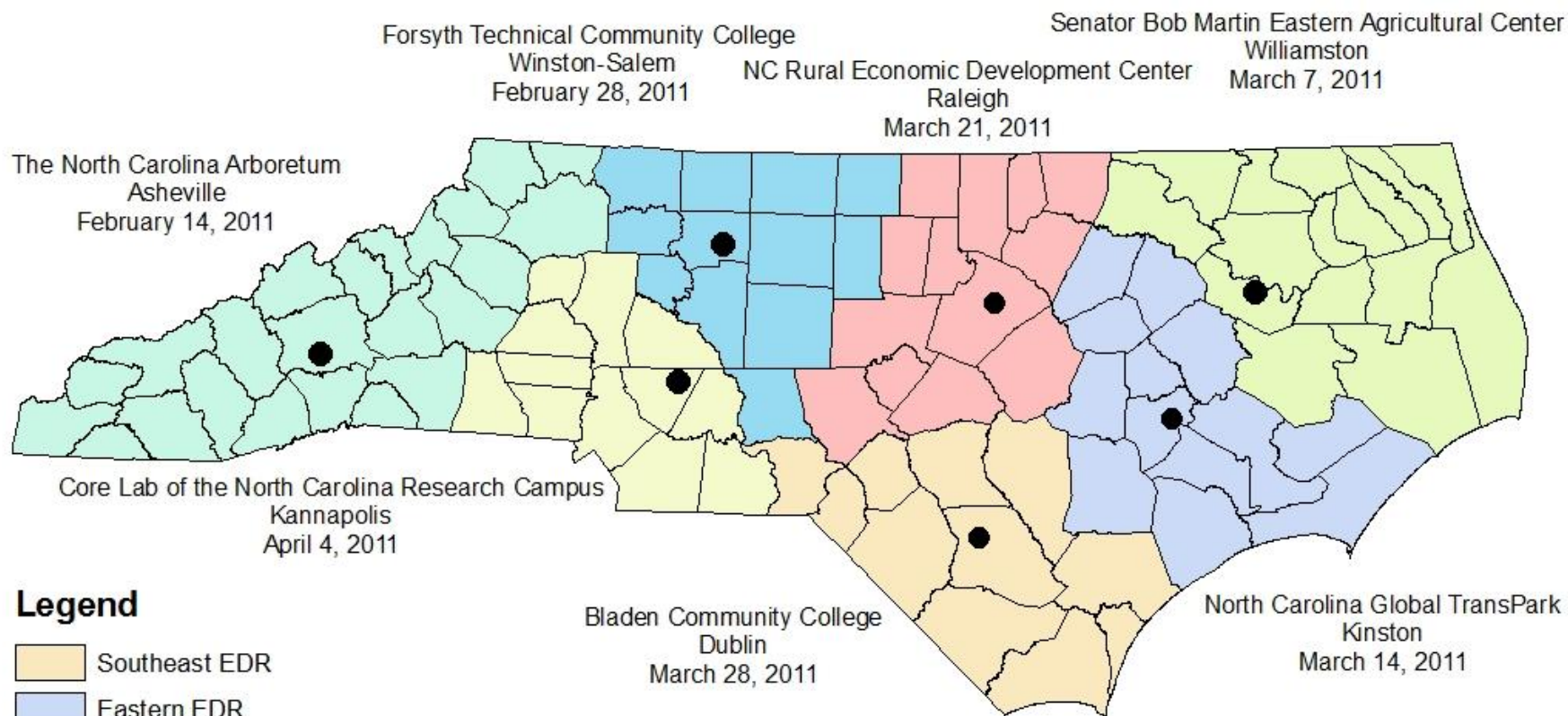
North Carolina Technical Assistance Regions

Brian Rathbone
(828) 450-7933
brathbone@e-nc.org

David Mitchell
(919) 397-7340
dmitchell@e-nc.org

Donna Sullivan
(919) 576-5151
dsullivan@e-nc.org

Legend

West	(green)
Central	(orange)
East	(blue)

e-NC

North Carolina Technical Assistance Regional Meetings

Forsyth Technical Community College
Winston-Salem
February 28, 2011

NC Rural Economic Development Center
Raleigh
March 21, 2011

Senator Bob Martin Eastern Agricultural Center
Williamston
March 7, 2011

The North Carolina Arboretum
Asheville
February 14, 2011

Core Lab of the North Carolina Research Campus
Kannapolis
April 4, 2011

Bladen Community College
Dublin
March 28, 2011

North Carolina Global TransPark
Kinston
March 14, 2011

Legend

- Southeast EDR
- Eastern EDR
- Northeast EDR
- Research Triangle EDR
- Piedmont Triad EDR
- Charlotte EDR
- Advantage West

Current Programs
(funded by $6.6m federal recovery grant with state match)

3) LITE-UP Program (2010-2012):
(Linking Internet to Economically Underprivileged People)

Implement a comprehensive broadband adoption program as a pilot for the FCC, to be carried out in direct partnership with AT&T, CenturyLink and Frontier Communications. The program provides qualifying households in three economically distressed counties with a computer, technical support, digital literacy training and reduced-cost broadband access. This pilot will inform the FCC and the NTIA on lessons learned as they look at restructuring the FCC's Universal Service Fund.

4) State Capacity Building (2010-2014):

Federal funding provides operating support to e-NC so that North Carolina can continue to have a state broadband authority.
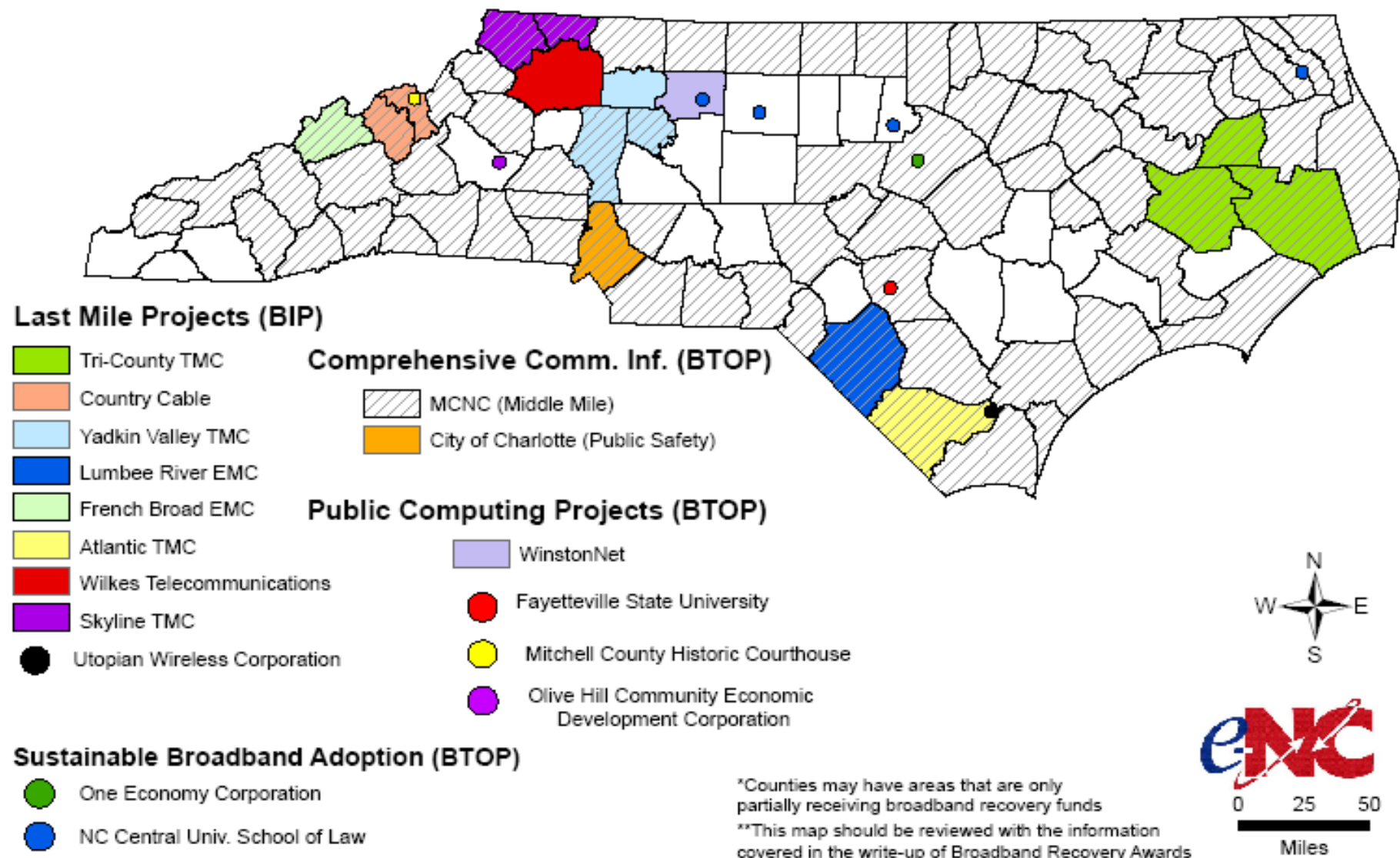
www.e-nc.org

NC Broadband Recovery Funding

Project Type	Award Amounts to NC
Last Mile Infrastructure Projects (BIP)	$137,896,583
Total BIP (USDA/Rural Utilities Service)	**$137,896,583**
Sustainable Broadband Adoption (BTOP)	$3,496,838
Comprehensive Comm. Infrastructure (BTOP)	$120,685,299
Public Computing Projects (BTOP)	$2,626,874
Total BTOP (US Dept. of Commerce/NTIA)	**$126,809,011**
Totals to Date	**$264,705,594**

North Carolina Broadband Recovery Projects

Last Mile Projects (BIP)

- Tri-County TMC
- Country Cable
- Yadkin Valley TMC
- Lumbee River EMC
- French Broad EMC
- Atlantic TMC
- Wilkes Telecommunications
- Skyline TMC
- Utopian Wireless Corporation

Comprehensive Comm. Inf. (BTOP)

- MCNC (Middle Mile)
- City of Charlotte (Public Safety)

Public Computing Projects (BTOP)

- WinstonNet
- Fayetteville State University
- Mitchell County Historic Courthouse
- Olive Hill Community Economic Development Corporation

Sustainable Broadband Adoption (BTOP)

- One Economy Corporation
- NC Central Univ. School of Law

*Counties may have areas that are only partially receiving broadband recovery funds

**This map should be reviewed with the information covered in the write-up of Broadband Recovery Awards

N
W E
S

0   25   50

Miles

e-NC

MCNC – Round 1

Diagram 1 of 5 - NCREN Optical Network Expansion To Underserved Areas Of North Carolina
Proposed Fiber Routes In Funded Service Area To Underserved, Partially Served and Served Counties of North Carolina

Underserved Total:	Underserved Partial:
Beaufort	Carteret
Bladen	Craven
Columbus	Johnston
Davie	Onslow
Edgecombe	Pender
Greene	Robeson
Harnett	Buncombe
Jackson	Catawba
McDowell	Cleveland
Polk	Haywood
Rutherford	Iredell
Transylvania	Lincoln

MCNC – Round 2

Why Broadband Infrastructure in North Carolina?

In 2010, broadband economists at **Strategic Networks Group** (www.sngroup.com) conducted research for e-NC and the U.S. Dept. of Commerce looking at how industry sectors and households in NC use broadband.

This survey was targeted at: **NC small businesses, non-profits, local governments** and the **healthcare sector**.

The survey was conducted in partnership with:
the **NC Dept. of Commerce**, the **NC Center for Nonprofits**, **NCACC** (the NC Association of County Commissioners), **NCLM** (the NC League of Municipalities and **NCHICA** (NC Healthcare Information & Communications Alliance).

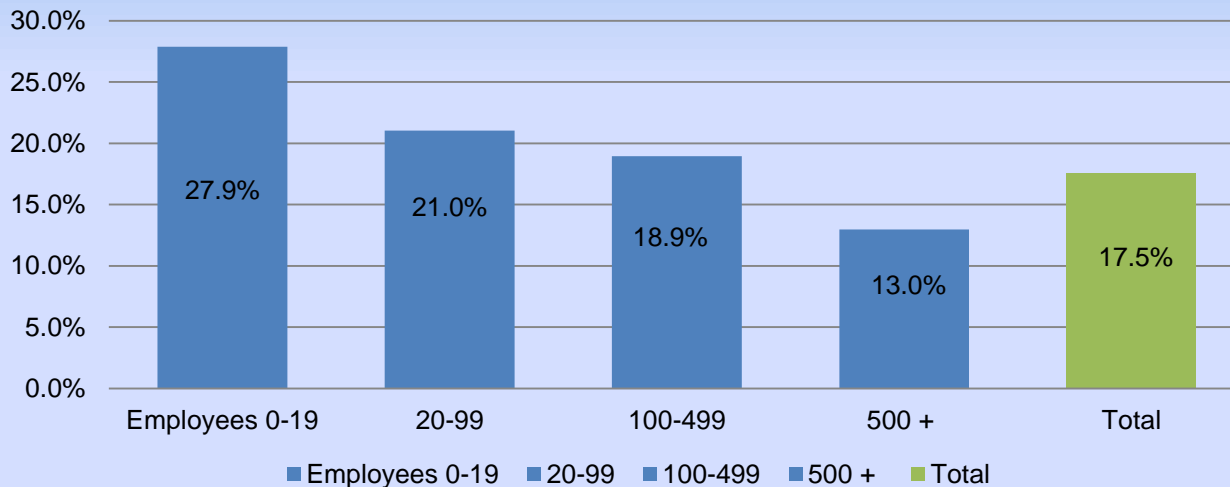Responses included **6266 organizations** and **1492 households**

Findings show….

Benefits: Economic Development
New Jobs

- **Broadband is responsible for 17.5% of all new jobs in NC**.
- Small businesses are more reliant on broadband for job creation.

Percent of New Jobs Attributed to Internet
By Size of Employer Group

Category	Percent
Employees 0-19	27.9%
20-99	21.0%
100-499	18.9%
500 +	13.0%
Total	17.5%

Legend: Employees 0-19, 20-99, 100-499, 500 +, Total

www.e-nc.org

Benefits: Economic Development
Choosing Where to Locate

- NC Organizations: 55% said broadband is essential for remaining in current location.

Importance of Broadband to Location

	Essential	Very Important	Somewhat Important	Not Important	Not Sure	Not Applicable
Selecting Location	30.8%	14.7%	9.0%	14.6%		25.1%
Remaining in Location	55.5%	18.8%	7.2%	6.1%		9.7%

% of Establishments

N = 5,607 [1.3%]

www.e-nc.org
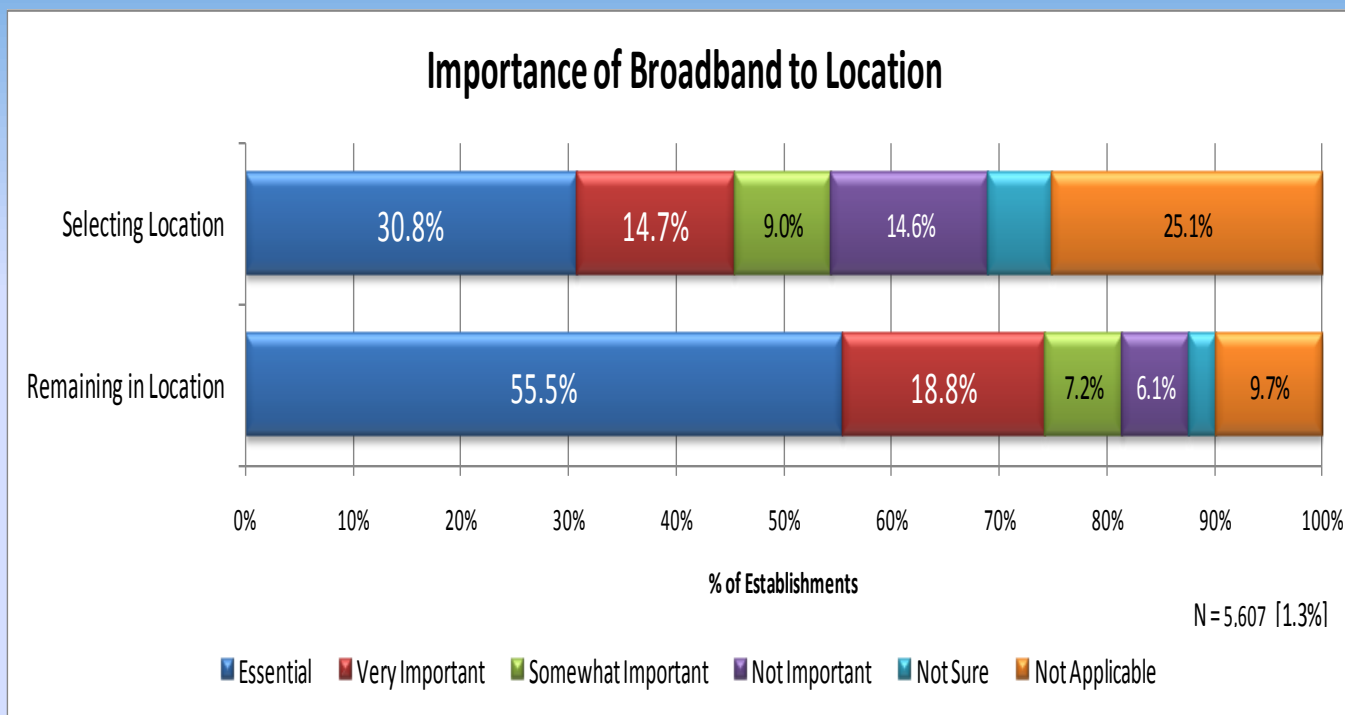
Benefits: Economic Development
Choosing Where to Locate

- NC Households: 39% said they would definitely or very likely relocate if broadband was not available.

Likelihood of Relocation to a Community with Broadband

Relocate for Broadband: 18.4% | 20.7% | 18.5% | 27.9% | 14.5%

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

% of Households

■ Definitely   ■ Very Likely   ■ Somewhat Likely   ■ Not Likely   ■ Not at all
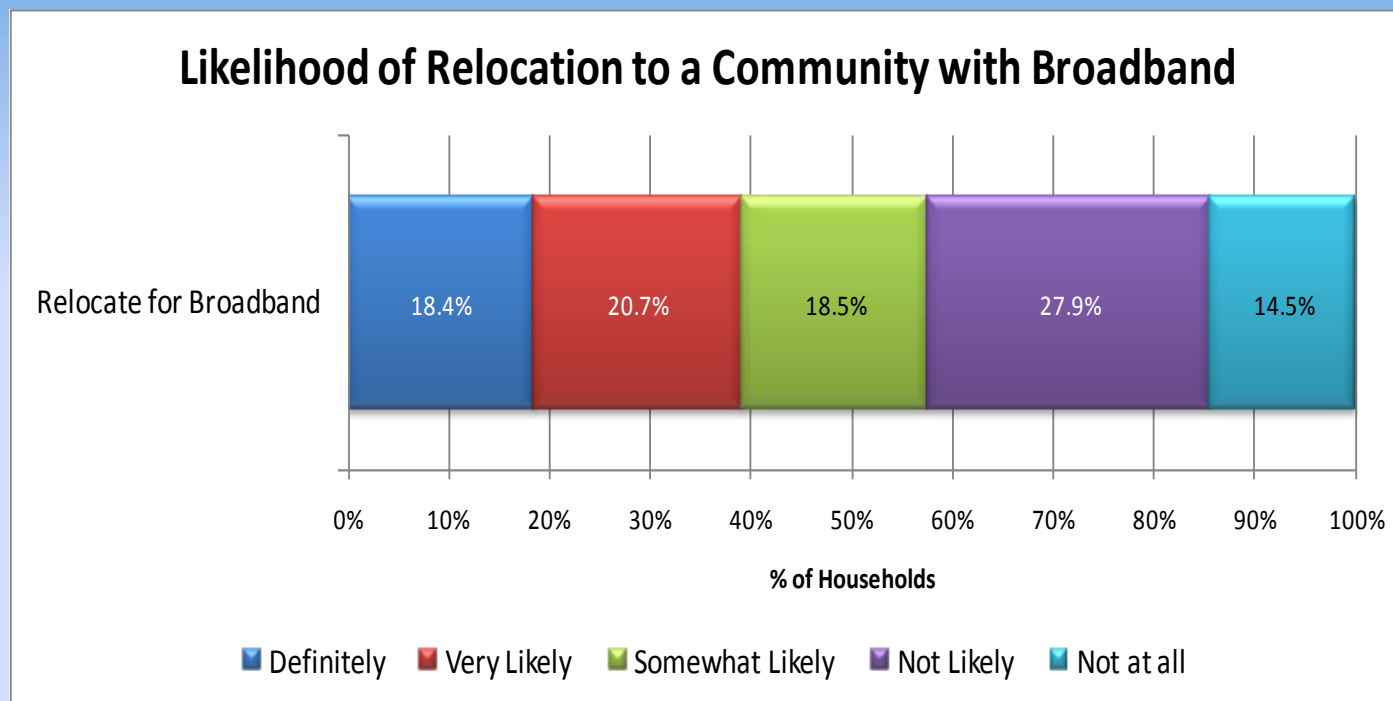
Benefits: Economic Development
Business Revenue

- The Internet is a significant factor in generating revenue. For NC businesses and organizations that employ up to 500 people – 16.6% of revenues are attributed to using the Internet.

Size of Organization by Number of Employees	Average Revenue per Organization	Average Revenue from Internet Use	% Revenue from Internet
0–19	1,284,576	231,824	18.0%
20–99	8,603,014	1,207,238	14.0%
100–499	38,542,168	6,335,703	16.4%

Benefits: Economic Development
Business Revenue

Nearly 32% of North Carolina home-based businesses currently use broadband. An additional 14% of are planning to create a home-based business using broadband.

Internet Uses - Personal Productivity
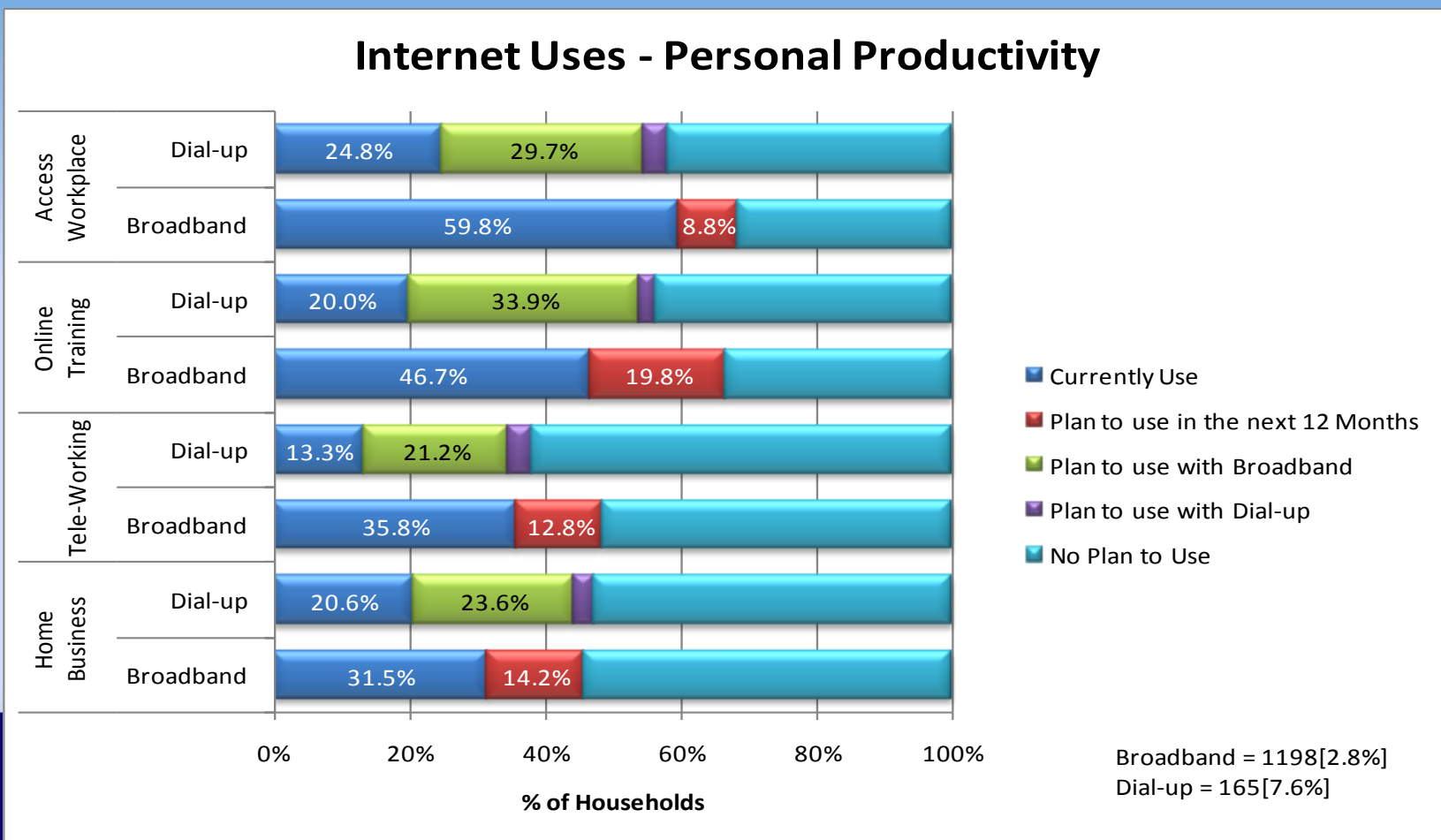
Closing

Broadband infrastructure is essential for communities to thrive in today's global environment and is vital to economic recovery and sustainable growth.

Broadband provides entrepreneurs, small businesses and large corporations with the tools necessary to survive and compete in local, state and national markets.

It also allows citizens more affordable and efficient access to basic amenities such as education, healthcare, public safety and government services.

The e-NC Authority requests that its recurring operating funding be continued so that is may continue the broadband mapping, planning, technical assistance, LITE-UP program, and other state level coordination for broadband to ensure that North Carolina continues to move forward.

www.e-nc.org